

**DETERMINATION THE CONCENTRATIONS OF HEAVY  
METALS IN SILVER CATFISH (*Pangasius sp.*) FROM SUNGAI  
SEMANTAN AND SUNGAI TEMBELING**

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## ABSTRACT

### DETERMINATION THE CONCENTRATIONS OF HEAVY METALS IN SILVER CATFISH (*Pangasius sp.*) FROM SUNGAI SEMANTAN AND SUNGAI TEMBELING

This study conducted to determine the concentration of heavy metal such as Cu, Zn, Ni and Cd in the muscle of silver catfish (*Pangasius sp.*) collected from Sungai Semantan and Sungai Tembeling. The fish feed and water samples were taken from both sites that act as additional sources of metal accumulation in fish and to assess the transfer factor. The heavy metals in silver catfish and fish feed were analysed by Energy Dispersive X-Ray Fluorescence (EDXRF) while the level of heavy metals in water was analysed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS). The highest and lowest concentrations of heavy metal from both sites were zinc and nickel respectively. The concentration of heavy metal in the fish from both site were in the increasing order for nickel, cadmium, copper and zinc. Estimated daily intake (EDI) for selected heavy metal was below the reference dose (RfD) for fish and the level for each heavy metal was below the permissible limit set by FAO/WHO except cadmium. The values of transfer factor indicate that the accumulated metal in fish is from water.

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